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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF   :

SHOKO ARAKI, ET AL.   : EXAMINER: VO, HIEN ZUAN

SERIAL NO: 10/539,609   :

FILED: JUNE 17, 2005   : GROUP ART UNIT: 2863

FOR: SIGNAL SEPARATION METHOD,   :
SIGNAL SEPARATION DEVICE, AND
RECORDING MEDIUM

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

MAIL STOP ISSUE FEE
COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicants acknowledge with appreciation the indication of Allowability of the

claimed invention. In response to the Examiner's Statement of Reasons for Allowance in the

Notice of Allowance of May 19, 2008, Applicants respectfully submit the following

comments.

In the Examiner's Statement of Reasons for Allowance on page 2 of the Notice of

Allowance mailed May 19, 2008, paragraphs 4 and 5 state in part:

> 4. For claims 1, 10, 21, 22, 26-27, the primary reason for
> allowance of claims are a procedure that uses said frequency-
> domain signal values to calculate at each frequency the relative
> values of the observed values between said sensors (including
> mapping these relative values), a procedure that clusters said
> relative values into N clusters, a procedure that calculates a
> representative value for each of said clusters, a procedure that
> uses said representative values to generate a mask for the
> purpose of extracting, from said frequency-domain signal
> values, mixed signal values comprising the signals emitted
> from V ($2 \leq V \leq M$) signal sources, a procedure that uses said
> mask to extract said mixed signal values from said frequency-

domain signal values, and a procedure that separates and extracts the values of V signals from said mixed signal values. 5. For claims 11, 12, 15, 23-25, 28-30, the primary reason for the allowance of claims are a procedure that transforms the observed signal values $x_1(t),...,X_M(t)$ observed by said sensors into frequency-domain signal values $X_1(f,m),...,X_M(f,m)$, a procedure that clusters first vectors $X(f,m)=[X_1(f,m),...,X_M(f,m)]$ comprising said frequency-domain signal values $X_1(f,m),..., X_M(f,m)$ into N clusters $C_i(f)$ (i=I,...,N) at each frequency f, a procedure that calculates second vectors $a_i(f)$ to represent each said cluster $C_i(f)$, a procedure that extracts V $(1 \leq V \leq M)$ third vectors $a_P(f)$ (p=1,...,V) from the second vector $a_i(f)$, a procedure that generates a mask $M(f,m)$ represented by the formula 55, where G_k is the set of said third vectors $a_P(f)$, G_k^c is the complementary set of G_k, and $D(\alpha,\beta)$ is the Mahanalobis square distance between the vectors α and β, and a procedure that extracts the signal values emitted from V of said signal sources by calculating the product of said mask $M(f,m)$ and said first vectors $X(f,m)$.
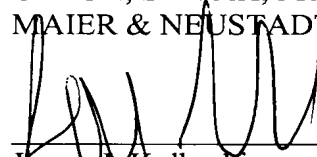
Although the above comment in paragraph 4 may be accurate with respect to Claims 1, 21 and 26, it is respectfully noted that independent Claims 10, 22 and 27 do not include all of the elements recited above. For example, Claims 10, 22 and 27 recite "a mask function that takes a high level value...and takes a low level value" based on relative values that may or may not be within a prescribed range and not "a mask for the purpose of extracting, from said frequency-domain signal values, mixed signal values".

Furthermore, although the above comment in paragraph 5 may be accurate with respect to Claims 11, 23 and 28, it is respectfully noted that independent Claims 12, 15, 24, 25, 29 and 30 do not include all of the elements recited above. For example, independent Claims 12, 24 and 29 recite judging "whether or not said first vectors satisfy the relationship" described in a particular formula, and Claims 15, 25 and 30 recite calculating "an N-row x M-column separation matrix" and not "a procedure that generates a mask" represented by a particular formula.

Accordingly, it is respectfully submitted that the above quoted statements apply only to independent Claims 1, 11, 21, 23, 26 and 28 (and claims dependent therefrom), and not to independent Claims 10, 12, 15, 22, 24, 25, 27, 29 and 30 (and claims dependent therefrom).

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

James J. Kulbaski
Attorney of Record
Registration No. 34,648

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)